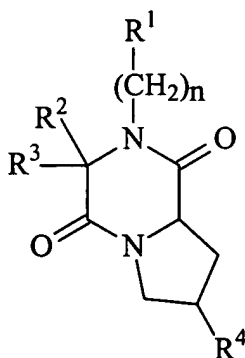


Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A compound of the structure (I):



~~and optical isomers, diastereomers, enantiomers and pharmaceutically acceptable salts thereof in isolation or mixture, as an isolated isomer, diastereomer, or enantiomer, or a mixture thereof, or a pharmaceutically acceptable salt thereof;~~ where, independently at each location:

R¹ is an aryl or a heteroaryl ring;

R² and R³ are selected from hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, carbocycle aliphatic ring, and heterocycle aliphatic ring;

n is 1, 2 or 3;

~~R⁴ is selected from -OR⁵ and -NR⁶R⁷;~~

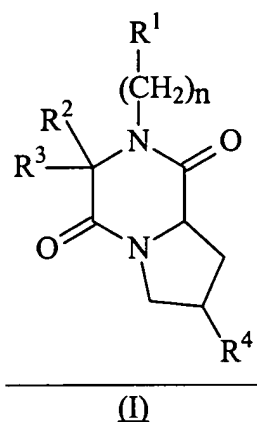
~~R⁵ is selected from hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, carbocycle aliphatic ring and heterocycle aliphatic ring; -NR⁶R⁷;~~ and

R⁶ and R⁷ are independently selected from hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, carbocycle aliphatic ring and heterocycle aliphatic ring or R⁶ and R⁷ taken together with the nitrogen atom to which they are attached form a heterocycle aliphatic ring.

2. (Currently Amended) A The compound of claim 1 wherein R^1 is phenyl and the phenyl is substituted with 1-4 substituents independently selected at each occurrence from alkyl, heteroalkyl, aryl, heteroaryl, carbocycle aliphatic ring, and heterocycle aliphatic ring.

3. (Currently Amended) A The compound of claim 2 wherein R^1 is phenyl having a substituent at the position *para* to the site of attachment to the piperazine ring.

4. (Currently Amended) A ~~compound of claim 3 wherein R^1 is phenyl having a substituent at the position *para* to the site of attachment to the piperazine ring, and the substituent has the formula $R^{10}-R^9-R^8$, wherein R^8 is selected from direct bond, alkylene and haloalkylene; R^9 is selected from direct bond and carbonyl, and R^{10} is selected from hydrogen, $R^{11}-O-$, $(R^{11})_2N-$ and $R^{11}-(C=O)-NH-$, wherein R^{11} is selected from hydrogen and organic groups having 1-20 carbons and optionally containing 1-4 heteroatoms selected from oxygen and nitrogen.~~ of the structure (I):



as an isolated isomer, diastereomer, or enantiomer, or a mixture thereof, or a pharmaceutically acceptable salt thereof; where, independently at each location:

R^1 is phenyl having a substituent at the position *para* to the site of attachment to the piperazine ring, and the substituent has the formula $R^{10}-R^9-R^8$, wherein R^8 is selected from direct bond, alkylene and haloalkylene; R^9 is selected from direct bond and carbonyl; and R^{10} is selected from hydrogen, $R^{11}-O-$, $(R^{11})_2N-$ and $R^{11}-(C=O)-NH-$; wherein R^{11} is selected from hydrogen and organic groups having 1-20 carbons and optionally containing 1-4 heteroatoms selected from oxygen and nitrogen;

R² and R³ are selected from hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, carbocycle aliphatic ring, and heterocycle aliphatic ring;

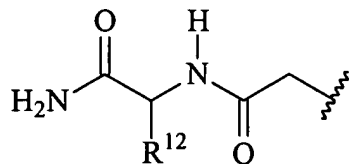
n is 1, 2 or 3;

R⁴ is -NR⁶R⁷; and

R⁶ and R⁷ are independently selected from hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, carbocycle aliphatic ring and heterocycle aliphatic ring or R⁶ and R⁷ taken together with the nitrogen atom to which they are attached form a heterocycle aliphatic ring.

5. (Currently Amended) A The compound of claim 4 wherein R⁸ is methylene; R⁹ is carbonyl, and R¹⁰ is (R¹¹)₂N- wherein R¹¹ is selected from hydrogen and organic groups having 1-20 carbons and optionally containing 1-4 heteroatoms selected from oxygen and nitrogen.


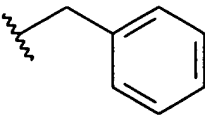
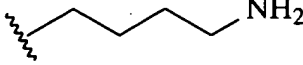
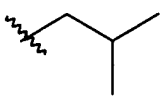
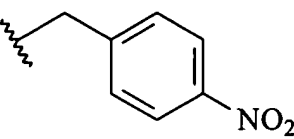
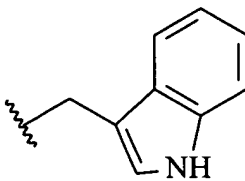
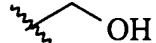
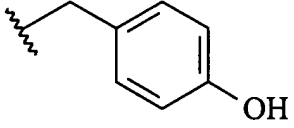
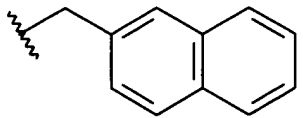
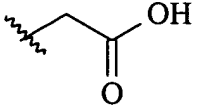
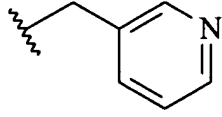
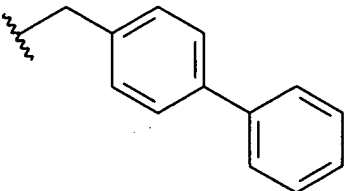
6. (Currently Amended) A The compound of claim 3 wherein R¹ is phenyl having a substituent at the position *para* to the site of attachment to the piperazine ring, and the substituent has the formula



and organic groups having 1-20 carbons and optionally containing 1-4 heteroatoms selected from oxygen and nitrogen.

7. (Currently Amended) A The compound of claim 6 wherein R¹² is selected from hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, carbocycle aliphatic ring and heterocycle aliphatic ring.

8. (Currently Amended) A The compound of ~~claim 7~~ claim 6 wherein R^{12} is selected from

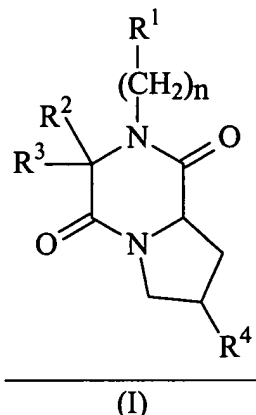
		
		
		
		

9. (Currently Amended) A The compound of claim 1 wherein R^1 is phenyl.

10. (Currently Amended) A The compound of claim 1 wherein n is 1.

11. (Currently Amended) A compound of ~~claim 1~~ wherein R^2 and R^3 are independently selected from groups of the formula $R^{10}-R^9-R^8$, wherein R^8 is selected from direct bond, alkylene and haloalkylene, R^9 is selected from direct bond and carbonyl, and R^{10} is selected from hydrogen, $R^{11}-O$, $(R^{11})_2N$ and $R^{11}-(C=O)-NH$, wherein R^{11} is selected from hydrogen and organic groups having 1-20 carbons and optionally containing 1-4 heteroatoms selected from oxygen and nitrogen, with the proviso that two R^{11} groups bonded to the same

nitrogen may be bonded together so as to form a heterocyclic ring with the common nitrogen. of the structure (I):



as an isolated isomer, diastereomer, or enantiomer, or a mixture thereof, or a pharmaceutically acceptable salt thereof; where, independently at each location:

R¹ is an aryl or a heteroaryl ring;

R² and R³ are independently selected from groups of the formula R¹⁰-R⁹-R⁸-, wherein R⁸ is selected from direct bond, alkylene and haloalkylene; R⁹ is selected from direct bond and carbonyl; and R¹⁰ is selected from hydrogen, R¹¹-O-, (R¹¹)₂N- and R¹¹-(C=O)-NH-; wherein R¹¹ is selected from hydrogen and organic groups having 1-20 carbons and optionally containing 1-4 heteroatoms selected from oxygen and nitrogen, with the proviso that two R¹¹ groups bonded to the same nitrogen may be bonded together so as to form a heterocyclic ring with the common nitrogen;

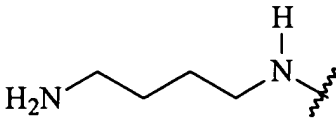
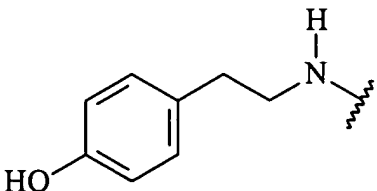
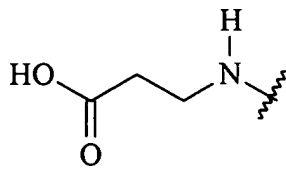
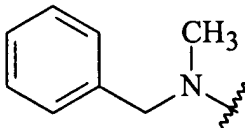
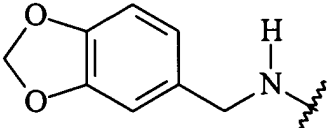
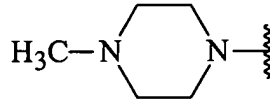
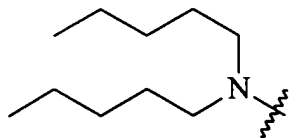
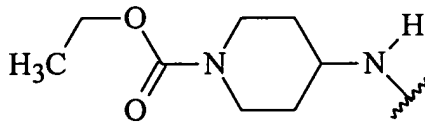
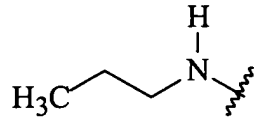
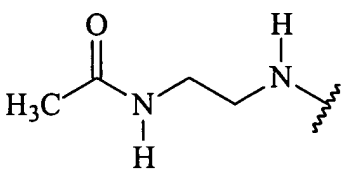
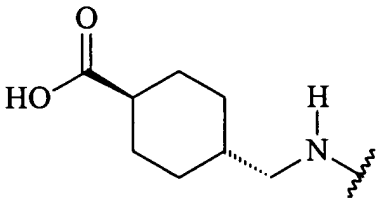
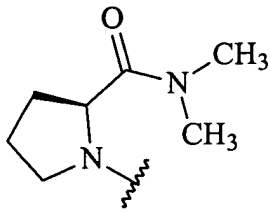
n is 1, 2 or 3;

R⁴ is -NR⁶R⁷; and

R⁶ and R⁷ are independently selected from hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, carbocycle aliphatic ring and heterocycle aliphatic ring or R⁶ and R⁷ taken together with the nitrogen atom to which they are attached form a heterocycle aliphatic ring.

12. (Currently Amended) A The compound of claim 11 wherein R⁸ is methylene; R⁹ is selected carbonyl, and R¹⁰ is (R¹¹)₂N-.

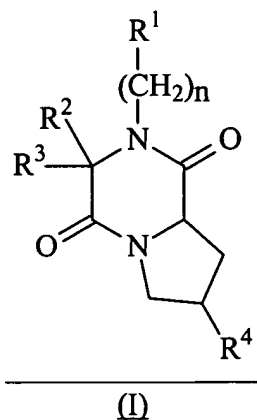
13. (Currently Amended) A The compound of claim 12 wherein R¹⁰ is selected from:

14. (Cancelled)

15. (Cancelled)

16. (Currently Amended) A compound of claim 1 wherein R^4 is $-NR^6R^7$ of the structure (I):



as an isolated isomer, diastereomer, or enantiomer, or a mixture thereof, or a pharmaceutically acceptable salt thereof; where, independently at each location:

R^1 is an aryl or a heteroaryl ring;

R^2 and R^3 are selected from hydrogen, alkyl, heteroalkyl, aryl, heteroaryl, carbocycle aliphatic ring, and heterocycle aliphatic ring;

n is 1, 2 or 3;

R^4 is $-NR^6R^7$; and

R^6 is hydrogen and R^7 is $R^{13}-C(=O)-$ where R^{13} is selected from:

17. (Cancelled)

18. (Currently Amended) A pharmaceutical composition comprising a compound according to ~~claim 1~~ claim 1, 4, 11 or 16 and a pharmaceutically acceptable adjuvant, carrier, diluent or excipient.

19. (Currently Amended) A method of treating inflammation comprising administering to a subject in need thereof a therapeutically effective amount of a compound according to ~~claim 1~~ claim 1, 4, 11 or 16.

20. (Currently Amended) A method for inhibiting a TNF- α mediated processes, comprising administering to a patient in need thereof, through a therapeutically or prophylactically acceptable manner, a therapeutically or pharmaceutically effective amount of a composition comprising a compound of ~~claim 1~~ claim 1, 4, 11 or 16.

21. (Currently Amended) A method for inhibiting a TNF- α mediated processes, comprising administering to a patient in need thereof, through a therapeutically or prophylactically acceptable manner, a therapeutically or pharmaceutically effective amount of a composition comprising a compound of ~~claim 1~~ claim 1, 4, 11 or 16, wherein the administering is selected from transdermal, oral, intravenous, intramuscular, vaginal, rectal, pulmonary, subcutaneous, sublingual and transmucosal administration.

22. (Currently Amended) A method for inhibiting a TNF- α mediated processes, comprising administering to a patient in need thereof, through a therapeutically or prophylactically acceptable manner, a therapeutically or pharmaceutically effective amount of a composition comprising a compound of ~~claim 1~~ claim 1, 4, 11 or 16.

23. (Currently Amended) A method for treating a condition associated with an elevated level of NF κ B activity in a subject, comprising administering to a subject in need

thereof an amount of a compound effective to lower the NF κ B activity, wherein the compound is a compound of ~~claim 1~~ claim 1, 4, 11 or 16.

24. (Cancelled)

25. (Currently Amended) A method of inhibiting IL-8 production in a subject in need thereof comprising administering to the subject an effective amount of a compound of ~~claim 1~~ claim 1, 4, 11 or 16.

26. (Currently Amended) A method of inhibiting GRO- α production in a subject in need thereof comprising administering to the subject an effective amount of a compound of ~~claim 1~~ claim 1, 4, 11 or 16.

27. (Currently Amended) A method for inhibiting a CXCR1 and/or CXCR2 mediated processes, comprising administering to a patient in need thereof, through a therapeutically or prophylactically acceptable manner, a therapeutically or pharmaceutically effective amount of a composition comprising a compound of ~~claim 1~~ claim 1, 4, 11 or 16.

28. (Original) The method of claim 27 wherein the method inhibits a CXCR1 mediated processes.

29. (Original) The method of claim 27 wherein the method inhibits a CXCR2 mediated processes.

30. (Original) The method according to claim 27 wherein the administering is selected from transdermal, oral, intravenous, intramuscular, vaginal, rectal, pulmonary, subcutaneous, sublingual and transmucosal administration.

31. (Currently Amended) A method for treating an inflammation event, comprising administering to a patient in need thereof, through a therapeutically or prophylactically acceptable manner, a therapeutically or pharmaceutically effective amount of a composition comprising a compound of ~~claim 1~~ claim 1, 4, 11 or 16.

32. (Original) The method according to claim 31 wherein the administering is selected from transdermal, oral, intravenous, intramuscular, vaginal, rectal, pulmonary, subcutaneous, sublingual and transmucosal administration.

33. (Currently Amended) A method for identifying a binding partner to a ~~compound~~ one or more compounds of claim 1, 4, 11 or 16, wherein the method comprises:

~~immobilizing~~ immobilizing proteins known to be involved in the TNF- α signaling pathway onto a suitable carrier; and

passing a solution of said ~~compounds~~ compound(s) in isolation or mixture over said proteins and analyzing for compound:protein complex formation using surface plasmon resonance (SPR).

34. (Currently Amended) A method for identifying a binding partner to a ~~compound~~ one or more compounds of claim 1, 4, 11 or 16, wherein the method comprises:

providing said compound(s) bound to a solid support to provide solid phase ~~compounds~~ compound(s);

contacting a cell or cell components containing said binding partner with said solid phase ~~compounds~~ compound(s) in isolation or mixture to form a binding partner:solid phase compound(s) complex;

removing uncomplexed ~~cellular~~ cell or cell component material from binding partner:solid phase compound(s) complex, ~~for example by gentle washing with aqueous buffer~~; and

recovering said binding partner from ~~solid-phase compounds~~ binding partner-solid phase compound(s) complex.